

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

ORDER NO. R7-2002-0138

**WASTE DISCHARGE REQUIREMENTS  
FOR  
UNITED STATES MARINE CORPS  
MARINE AIR GROUND TASK FORCE TRAINING COMMAND  
MARINE CORPS AIR GROUND COMBAT CENTER  
NATURAL RESOURCES/ENVIRONMENTAL AFFAIRS DIVISION, OWNER/OPERATOR  
USMC FIRE FIGHTING TRAINING FACILITY  
Twentynine Palms – San Bernardino County**

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. The United States Marine Corps, Marine Air Ground Task Force Training Command (MAGTFTC), Marine Corps Air Ground Center (MCAGCC), (hereinafter referred to as the discharger), Box 78110, Twentynine Palms, California 92278-5000, submitted a Report of Waste Discharge (ROWD) to update its Waste Discharge Requirements (WDRs) for the Fire Fighting Training Facility (FFTF).
2. MCAGCC is located in south-central San Bernardino County, approximately five (5) miles north of the City of Twentynine Palms as shown on the Location and Vicinity Map, incorporated herein and made part of this Board Order.
3. This discharge has been subject to WDRs adopted in Board Order No. 01-009. The Board is reissuing these WDRs due to design changes in the facility.
4. The FFTF is located in Section 33, T3N, R8E, SSB&M, inside the Expeditionary Air Field (EAF) compound at the end of Phillips Road. The site is in the vicinity of the Crash Fire Rescue Operations Office, Building 5702, located at the EAF.
5. The discharger states that the FFTF consists of a 140-foot diameter octagonal containment area with an inner fire burn center that is circular and 100 feet in diameter. The inner fire burn center is excavated into the ground approximately three (3) feet below grade to form a depression. Within the depression, a layer of crushed aggregate overlays two (2) 100 mil thick High-Density Polyethylene (HDPE) synthetic liners with a drainage geotextile net sandwiched between the liners. A layer of concrete overlays the synthetic liner. The inner fire burn pit is surrounded by a 45-foot wide concrete over-spray apron. Visual and electronic leak detection systems are provided.
5. The FFTF is operated by floating off-specification and/or clean product fuel, consisting of JP-4, JP-5, JP-8, diesel fuel, Bio-Diesel, and or unleaded gasoline, from two (2) 5,000 gallon above ground storage tanks (ASTs), on top of a water layer (minimum of two (2) feet in depth) and igniting the fuel. Each training event will utilize between 250-500 gallons of fuel. Approximately, 90 percent of the fuel is consumed by fire during each event. Approximately, 25-50 gallons is recovered from the oil/water separator (OWS) system following each training event.
6. The discharger states that the FFTF is expected to utilize 52,000-104,000 gallons of fuel annually, recovering 5,200-10,400 gallons from the oil/water separator (OWS) and losing approximately 46,800-93,600 gallons due to combustion. Annual generation of wastewater is expected to be between 832,000-1,040,000 gallons with a reutilization rate of approximately 80 percent for training fires. The expected useful life of the FFTF is until the year 2026.

7. After the fire is extinguished, the discharger states that the liquid will be drained from the inner burn center by gravity to the OWS system. The OWS system consists of a 500-gallon sand-settling tank, and a 200 gallons-per-minute (gpm) process capacity OWS with a parallel plate oil coalescing system. The effluent oil collection system, 1.0 horsepower sump pump and 1.5 horsepower (40 gpm) oil pump to send recovered oil to a fuel tank (500 gallon capacity).
8. The discharger states that reclaimed wastewater effluent from the OWS will flow by gravity to a 15,000 gallon AST. The AST is double walled and housed in an open top concrete vault to allow gravity flow from the OWS. The outer height of the concrete vault wall extends two (2) feet above ground surfaces. Reclaimed water from the AST is recycled back to the burn facility by a 200 gpm pump. Each fire fighting training session is expected to generate approximately 4,000 gallons of wastewater, of which 90 percent will be recycled.
9. The discharger states that, all under ground piping will be doubled-walled HDPE pipe with annular space monitoring. The fuel and the recovered fuel AST are single-walled in secondary containment structures having 110% capacity. The wastewater AST will be double-walled with interstitial inspection ports. All ASTs have level sensors.
10. The discharger states that daily monitoring of the burn center, ASTs, and the monitoring system is conducted and results will be retained in a daily logbook. Two (2) personnel will conduct pre-operational checks and filling of the FFTF with water and fuel at all times. Post-operational draining of the FFTF, OWS, and AST and associated checks are conducted by two (2) personnel. If system alarms trip during the pre-operational, operational, and or post operational use of the FFTF and associated equipment, the facility will be closed until the situation is corrected.
11. Storm water control and site drainage is controlled by berms, drainage swales, retaining walls, and elevated facilities. The OWS and ASTs have overhead cover to prevent direct rainfall into the facility. The entire EAF and adjoining Camp Wilson Complex has storm water retention berms to prevent potentially polluted industrial related storm water from entering the "waters of the U.S." or Deadman Dry Lake to the east of the facility.
12. FFTF security is part of the overall security for the entire EAF compound provided by a main gate security force and fencing of the entire compound. The FFTF is bounded on all sides by a mixture of chain link fence, double strand cyclone fence, barbed wire fence, earth berms four (4) - eight (8) feet high, and a primary and secondary entrance gate. Prior to entering the facility, all personnel must check into the Crash Fire Rescue Operations Building adjacent to the FFTF facility. No entrance is allowed directly from the main service road of the EAF.
13. Installation Restoration Site #18, former Crash Fire Rescue Training Facility No. 4 is located east-southeast of the site, and is currently undergoing cleanup. The facility is subject to Cleanup and Abatement Order No. 91-019, issued on January 4, 1991 by the Regional Board's Executive Officer.
14. Land to the north of this facility is natural desert with the south and west bounded by the Expeditionary Air Field. East of the facility is Deadman Dry Lake.
15. The FFTF is approximately 2,000 feet above mean sea level.
16. The FFTF at MCAGCC lies in the southern boundary of the Mojave Desert and is considered part of the Mojave Desert Geomorphic Providence. The site is bounded on the northeast by the northwest-trending Bullion Mountain Ranges, on the south by the Pinto and little San Bernardino and San Gabriel Mountains, and on the north by numerous northwest-trending smaller ranges and fault systems.

17. Based on seismic refraction studies, the alluvial deposits of the Deadman Lake sub-basin are approximately 2,000 feet thick near the Surprise Springs Fault and up to 10, 500 feet thick near Deadman Lake and The FFTF. The upper 40 to 60 feet of soils are considered to be superficial soils consisting of interbedded, poorly-graded to well-graded sands, silty sands and small pockets of poorly-graded gravels. Deeper, older sediments greater than 60 feet below the surface consist primarily of poorly-to-well-graded sands, and pockets of fine to coarse gravel interfingering with sand deposits, and older alluvium derived from volcanic and granitic detritus from adjacent highlands.
18. The Bullion Mountain Fault is 3.1 miles from the site and the Surprise Springs Fault is 2.9 miles from the site. The area is considered to be seismically active, due to several Holocene faults in the Region.
19. The FFTF is located approximately one mile west of Deadman Lake. There are no washes within the facility boundary, and the surrounding area drains in a northeasterly direction.
20. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan) was adopted on November 17, 1993, and designates the beneficial uses of ground and surface waters in this Region.
21. The FFTF is located in the Deadman Lake sub-basin of the Deadman Hydrologic Unit. The beneficial uses of the groundwater in the Deadman Hydrologic Unit are:
  - a. Municipal supply (MUN)
  - b. Industrial supply (IND)
  - c. Agricultural supply (AGR)
22. Numerous water supply wells are located within four (4) miles of the FFTF. MCAGCC has eleven (11) groundwater wells in the Surprise Springs sub-basin, approximately three (3) miles to the west of the site, that supply the Base with high quality water. Municipal wells that are high in fluoride and total dissolved solids (TDS) lie within the Surprise Springs sub-basin.
23. Numerous groundwater monitoring wells are within a two (2)-mile boundary of the facility. Depth-to-groundwater ranges from 38 feet below ground surface (bgs) near Deadman Lake to 239 feet bgs on the south side of the EAF. Groundwater in monitoring wells located on and adjacent to the facility averages approximately 170-190 feet bgs. TDS concentration ranges between 311 mg/L to 985 mg/L, and fluoride concentrations range from 4.8 mg/L to 9.6 mg/L within the local area of the Deadman Lake sub-basin. Groundwater flow direction at the site is from the northeast to southeast at a gradient of 0.0064 foot per foot.
24. The average annual precipitation has been reported at 4.11 inches with an average annual evaporation rate of 120 inches.
25. Federal regulations for storm water discharges were promulgated by the U.S. Environmental Protection Agency on November 16, 1990 (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities which discharge storm water associated with industrial activity (storm water) to obtain NPDES permits and to implement Best Conventional Pollutant Technology (BCPT) to reduce or eliminate industrial storm water pollution.
26. In accordance with Section 15301, Chapter 3, Title 14 of the California Code of Regulations, the issuance of these WDRs which govern the operation of an existing facility involving negligible or no expansion of use beyond that previously existing, is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code, Sections 21000 et seq.).
27. The facility has a permit (No. B002766) from the Mojave Desert Air Quality Management District.

28. These WDRs have been updated to incorporate the provisions of Title 27 of the California Code of Regulations.
29. The monitoring and reporting requirements in Monitoring and Reporting Program No. R7-2002-0138 are necessary to determine compliance with these WDRs and to determine the facility's impacts, if any, on receiving water.
30. The Board has notified the discharger and all known interested agencies and persons of its intent to update WDRs for said discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.
31. The Board, in a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, that Board Order No. 01-009 is rescinded, and in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the discharger shall comply with the following:

A. Specifications

1. The FFTF pad and liners, and oil/water separator (OWS) shall be maintained in a sealed condition to prevent the exfiltration of any liquids. After each training event, an electronic test cycle shall be conducted on electronic monitors to ensure containment is functional. Annual certification of the electronic system shall be performed. Also, the electronics of the system itself shall be tested after each training event by running the built-in diagnostic system. If the diagnostics indicate a malfunction in the leak detection system, all training shall be suspended until the unit is repaired. The results of this electronic system testing shall occur after each training event and shall be signed by the appropriate environmental personnel at that particular training event. Also, these diagnostic testing results shall be signed by that person's immediate supervisor and shall be sent to the Regional Board with the monthly monitoring report.
2. There shall be an annual written certification verified and signed by a California Registered Engineer or Certified Engineering Geologist that states that all original design criteria have been maintained, including, the site grading, storm water berms and swales, vault integrity, pipeline alignments and monitoring systems.
3. All facilities used for collection, use, transport, treatment of material shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.
4. The design of the burn pit and trenches leading to the OWS shall have sufficient capacity to contain all water from a previous burn event plus rainwater falling from a hundred-year storm event.
5. Any unusual occurrence of sludge generation from the facility shall be characterized and a report submitted to the Regional Board. The report shall list the characterization and disposal options for approval by the Regional Board's Executive Officer prior to disposal at locations approved by the Regional Board and San Bernardino County Department of Environmental Services.
6. Discharge to the FFTF shall be limited to the liquids described in Finding 5, above.
7. The burning of liquid at this facility shall not cause a nuisance or pollution as defined in Sections 13050 (1) and 13050 (m) of Division 7 of the California Water Code.
8. The treatment or disposal of waste at this facility shall not cause a nuisance or pollution as defined in Secs. 13050 (l) and 13050 (m) of Division 7 of the California Water Code.

9. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
10. The discharger shall operate the oil/water separator system to maintain 50 parts-per-million (ppm) maximum concentration of petroleum hydrocarbon effluent to the wastewater storage tank.
11. The discharger shall provide the Regional Board with a set of "Final Design" drawings prior to discharge, and a set of "As Built" drawings upon completion of the facility.
12. The discharger shall not modify the facility as shown on the "Final Design" and/or "As Built" drawings unless approved by the Regional Board's Executive Officer.
13. The discharger shall install visual detection systems on the wastewater AST, the OWS, and the sand separator that shall consist of "Pop Up" sensors which activate when detecting danger of overflow. The visual overflow detection system shall be inspected daily and the results entered into the daily maintenance and inspection logbook.
14. The discharger shall maintain an operations and maintenance program at the facility. These records shall be made available for review by representatives of the Regional Board at any time during normal business hours. The discharger shall report any significant findings of said program in the monitoring reports submitted in accordance with reporting requirements of this Board Order.
15. After each burn day, the following shall be checked:
  - a. The amount of liquid in the sump between the two (2) liners of the burn pit.
  - b. The amount of liquid in the sump beneath the lined trench that connects the burn pit to the oil water separator (OWS)
  - c. The waste oil tank level.
  - d. The ground beneath the 15,000-gallon AST containing the non-oil fraction from the oil/water separator. The ground should be checked for leakage from the tank.
  - e. To determine that the valve that drains the contents of the burn pit to the oil/water separator is closed and secure.
16. After checking each of the above, a report from that particular training event shall be signed by appropriate environmental personnel and signed by that person's immediate supervisor. The report shall be sent to the Regional Board with the quarterly monitoring report.
17. There shall be three (3) groundwater monitoring wells in the general vicinity of the burn pit. Two (2) downgradient and one (1) well upgradient from the FFTF pit shall be designed, installed, and located with certification of an appropriate professional and with approval from the Regional Board's Executive Officer. These wells shall be monitored quarterly.
18. When the top liner of any double lined system of the FFTF has a permeability greater than  $1 \times 10^{-11}$  cm/sec, that liner shall be repaired. The permeability of the top liner of a double lined system can be calculated by measuring the number of gallons in the sump that drains between the two (2) liners.
19. Raised vents (above the level of the burn pit) shall be installed on the sand separator, the OWS, and the wastewater AST to eliminate overflow spillage potential.

## B. Prohibitions

1. There shall be no recycled oil burned at this site.
2. If leaks in the FFTF pad or liner are detected, use of the FFTF is prohibited until the leak is repaired.
3. The discharge of wastewaters or solid waste or sludge to the surface, surface water drainage courses, groundwater, or to the ground is prohibited.
4. The discharge of wastewater except to the authorized disposal sites is prohibited.
5. There shall be no discharge, bypass, or diversion of wastewater from the collection, transport, treatment or disposal facilities to adjacent land areas or surface waters.
6. The discharger shall not cause degradation of any beneficial use of surface or groundwater.

## C. Provisions

1. The discharger shall ensure that all site-operating personnel are familiar with the content of this Board Order.
2. The discharger shall comply with Monitoring and Reporting Program No. R7-2002-0138, and future revisions thereto, as specified by the Regional Board's Executive Officer.
3. Prior to any change in ownership or management of this operation, the discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Board.
4. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
5. The discharger shall allow the Regional Board, or an authorized representative, upon presentation or credentials and other documents as may be required by law, to:
  - a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of the Board Order;
  - b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Board Order;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and
  - d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, and substances or parameters at this location.
6. This Board Order does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

7. The discharger is the responsible party for the WDRs and the Monitoring and Reporting Program for the facility. The discharger shall comply with all conditions of these waste discharger requirements. Violations may result in enforcement actions, including Regional Board Orders or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Board.
8. The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances, which are installed or used by the discharger to achieve compliance with conditions of this Board Order.
9. The discharger may be required to submit technical reports as directed by the Regional Board's Executive Officer.
10. The discharger shall provide adequate notice to the Regional Board Executive Officer of the following:
  - a. Any substantial change in the volume or character of pollutants being introduced into any of the facilities described in the Findings of this Board Order by an existing or new source.
  - b. Any planned physical alterations or additions to the facilities described in this Board Order, or changes planned in the discharger's sludge use or disposal practice, where such alternations, additions, or changes may justify the application of Board Order conditions that are different from or absent in the existing Board Order, including notification of additional disposal sites not reported during the Board Order application process, or not reported pursuant to an approved land application plan.
  - c. Adequate notice shall include information on the quality and quantity of effluent introduced, and any anticipated impact of the change on the quantity or quality of the discharger's effluent and/or sludge.
  - d. The discharger shall report immediately any noncompliance that may endanger health or the environment. Any such information shall be provided verbally to the Regional Board Office as soon as possible but no more than 24 hours from the time the discharger becomes aware of the circumstances. A written submittal shall also be provided within five (5) days of the time the discharger becomes aware of the circumstances. The written submittal shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue and steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance. The Regional Board's Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis, if the oral report has been received within 24 hours.
11. After a significant earthquake event the discharger shall:
  - a. Immediately notify the Regional Board by phone; and
  - b. Within seven (7) days, submit to the Regional Board a detailed post-earthquake report describing any physical damages to the containment features, groundwater monitoring and/or leachate control facilities and corrective action plan to be implemented at the Landfill.

12. This Board Order is subject to Regional Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies or changes in the discharge characteristics.
13. The discharger shall submit a Notice of Intent (NOI) to the State Water Resources Control Board to be covered under the Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities, Order No. 97-03-DWQ, NPDES No. CAS 000001.
14. The discharger shall implement the attached Monitoring and Reporting Program No. R7-2002-0138, and revisions thereto, in order to detect, at the earliest opportunity, any unauthorized discharge or release of constituents of concerns from the burn pit, or any unreasonable impairment of beneficial uses associated with (caused by) discharges or releases of constituents from the burn pit.
15. The discharger shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, or pollution, to occur, as indicated by the most appropriate statistical (or non-statistical) data analysis method and retest method listed in Part III of the attached Monitoring and Reporting Program No. R7-2002-0138, and revisions thereto.
16. The discharger shall follow the Water Quality Protection Standards (WQPS) for detection monitoring established by the Regional Board in this Board Order pursuant to Title 27, Section 20390. The following are five (5) parts of WQPS as established by the Regional Board (the terms of art used in this Board Order regarding monitoring are defined in Part I of the attached Monitoring and Reporting Program No. R7-2002-0138, and revisions thereto, which is hereby incorporated by reference):
  - a. The discharger shall test for the monitoring parameters and the COC's listed in Monitoring and Reporting Program No. R7-2002-0138, and revisions thereto.
  - b. Concentration Limit – The concentration limits for each monitoring parameter and COC for each monitoring point (as stated in Detection Monitoring Program Part III), shall be its background value as obtained during that reporting period.
  - c. Monitoring points and background monitoring points for detection monitoring shall be those listed in Part II.B of the attached Monitoring and Reporting Program No. R7-2002-0138, and revisions thereto.
  - d. Points of Compliance – (Section 20405, Title 27) shall be those monitoring points listed in Part II.B of the attached Monitoring and Reporting Program No. R7-2002-0138, and revisions thereto.
  - e. Compliance Period – The estimated duration of the compliance period for this facility is until the year 2020. Each time the Standard is not met (i.e., releases discovered), the facility begins a compliance period on the date the Regional Board directs the dischargers to begin an Evaluation Monitoring Program. If the dischargers' Corrective Action Plan (CAP) has not achieved compliance with the Standard by the scheduled end of the compliance period, the compliance period is automatically extended until the facility has been in continuous compliance for at least three (3) consecutive years.

I, Philip A. Gruenberg, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control, Colorado River Basin Region on September 4, 2002.

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Executive Officer